

# **Gender Equity and Diversity in Academia: Intersectional Analysis of Academic Staff in Israel via Process Mining**

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## **Abstract**

This paper explores the intricate relationship between gender equity and diversity in academia, arguing that these two goals are not mutually exclusive or independent, but rather intricately intertwined. While existing discourse on gender equity in academia focuses primarily on the obstacles women face within the academic system, and discussions on diversity in academia concentrate on barriers preventing underrepresented groups from entering academia, this study contends that an intersectional framework is crucial for understanding and addressing inequalities within academic institutions.

Drawing on the concept of intersectionality (Crenshaw, 1989), our research applies process mining methodology (van der Aalst, 2016) to examine the inequalities prevalent among tenured academic staff in Israel. We collected data from university sites, encompassing approximately 400 tenure track members, and utilized the Celonis software to create a dashboard for comprehensive data analysis and visualization.

By mapping the composition of the academic workforce and their promotion processes based on intersecting factors such as gender, ethnicity, and nationality, our study offers unique insights and demonstrates the potential of digital humanities in the Israeli context. The application of process mining techniques combined with the use of the Celonis software enables a detailed review of the collected data, providing a comprehensive understanding of the power dynamics and obstacles hindering true and sustainable equality in academic institutions.

Building upon our prior research (Gigi, Nagar-Ron, Yehuda, and Razi, 2020), which highlighted the importance of intersectional analysis in understanding gender, ethnicity, and nationality dynamics among academic staff, we further expose the ethno-gendered and national-gendered nature of inequality. Additionally, our findings shed light on disparities in representation and advancement between first-tier academic institutions (universities) and second-tier ones (colleges).

This paper presents preliminary research findings and emphasizes the significance of employing an intersectional lens to comprehensively grasp the diverse power mechanisms and obstacles hindering true and sustainable equality within academic institutions. The insights garnered from this study, facilitated by the utilization of process mining and Celonis software, have implications for both researchers and policymakers, fostering a more nuanced understanding of gender equity and diversity and aiding in the development of effective strategies to promote equality in academia.

## **Keywords**

gender equity, diversity, intersectionality, academic staff, process mining,

## **Biographies**

**Sagit Kedem-Yemini** is an industrial engineer proficient in information systems and currently holds two lecturing positions: a tenured lecturer position at Sapir Academic College (Logistics Department) and an adjunct lecturer at

Ben-Gurion University (both in IE&M and the Faculty of Business and Management). Her teaching portfolio is broad, focusing on enterprise systems implementation (SAP and Oracle Applications) and derivatives of ERP data collection, ranging from business analytics to process mining. Additionally, she has extensive experience in academic curriculum development, serving as the head of her department's teaching committee and acting as a liaison to the graduation projects unit. Her research interests include process mining and its practical applications, ERP-related issues, and DSS development. Since 2015, she has served as a member of the JITCAR Editorial Review Board. Prior to her academic career, Dr. Kedem-Yemini worked at a global clean-room fab build-up construction management company with major clients such as Intel, Tower Semiconductors, and Teva Pharmaceuticals. During her tenure there, she held various positions, including logistics manager, scheduling manager, and CIO (Chief Information Officer).

**Sigal Nagar-Ron** is a Doctor of Sociology at Sapir Academic College. The main area of her research is the intersection between ethnicity, class, space and gender. She serves as the chair of the Feminist Forum at the college and as a member of the ethic in research committee and in the gender equity committee. Dr. Nagar-Ron is the Co-Chair of the Ethnicity, Race and Coloniality Community at the Israeli Sociological Association. Nagar-Ron's expertise and research contributions extend beyond committee work. She has edited a notable book (with M. Gigi and T. Razi) titled "Diversifying the Ivory Tower: First Generation Students Writing," which offers unique perspectives on first-generation students' experiences within academia.

**Tammy Razi** is a historian and senior lecturer at Sapir Academic College. She specializes in social history and gender history of Mandatory Palestine. In recent years she has been researching inequality in higher education in Israel. Dr. Razi has held key administrative roles within Sapir Academic College, including the position of Head of the Teaching and Learning Enhancement Unit and Head of the Multidisciplinary Department. Additionally, she actively contributes to the academic community outside of the institution, serving as an assessor for dissertation and thesis proposals at Haifa University, Bar-Ilan University, and Hebrew University. She has also served as a referee for proposals submitted to The Israeli Science Foundation and the Jewish Memorial Foundation. She has edited a notable book (with M. Gigi and S. Nagar-Ron) titled "Diversifying the Ivory Tower: First Generation Students Writing," which offers unique perspectives on first-generation students' experiences within academia.